



SPW

Attorney Docket No. 5000.129D
Confirmation No. 5148

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Kong et al.

Serial No.: 10/685,597

Filed: October 16, 2003

For: SINGLE STEP PENDEO-AND LATERAL EPITAXIAL
OVERGROWTH OF GROUP III-NITRIDE EPITAXIAL
LAYERS WITH GROUP III-NITRIDE BUFFER LAYER
AND RESULTING STRUCTURES

Group Art Unit: 2822

Examiner: Amir Zarabian

May 11, 2004

Commissioner for Patents
Alexandria, VA 22313-1450

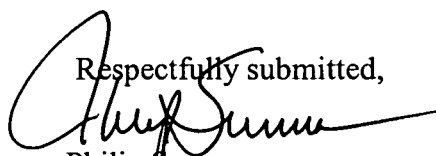
INFORMATION DISCLOSURE STATEMENT
CITATION UNDER 37 C.F.R. § 1.97

Dear Sir:

Attached is a list of documents on Form PTO/SB/08A. It is requested that the Examiner consider these documents and officially make them of record in accordance with the provisions of 37 C.F.R. § 1.97 and MPEP § 609.

All references listed, with the exception of U.S. Patent No. 6,153,010, EP 0 942 459 and CN 1258094, were cited by both Applicant and Examiner in related Application No. 10/056,607 filed January 24, 2002, which is a divisional of Serial No. 09/679,799 filed October 5, 2000. We enclose copies of the newly cited foreign documents EP 0 942 459 and CN 1258094. Because the benefit of this application was claimed under 35 U.S.C. 120, no copies of the previously cited documents need to be furnished in accordance with 37 C.F.R. § 198(d); however, copies will be furnished upon request.

Respectfully submitted,

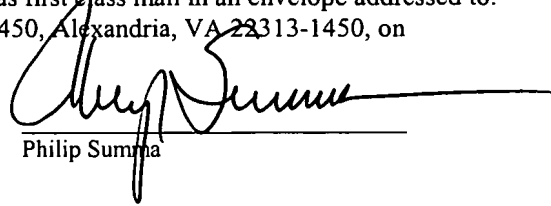

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Serial No. 10/685,597
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Page 2

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 11, 2004.



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Substitute for form 1449A/PTO

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Sheet

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of

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Complete if Known

Application Number

10/685.597

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October 16, 2003

First Named Inventor

Kong et al.

Group Art Unit

2812

Examiner Name

Attorney Docket Number

5000.129D

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FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ₆
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
	10	WO	99/18617		Cree Research, Inc.	04-15-1999		
	11	Japan	9-174494		Nichia Chemical Industries, Inc.	06-30-1997		x
	12	Japan	9-201477		" "	07-28-1997		x
	13	Japan	9-277448		" "	10-09-1997		x
	14	Japan	9-290098		" "	10-22-1997		x
	15	Japan	9-324997		" "	11-26-1997		x
	16	Japan	11-191657		" "	07-13-1999		
	17	Japan	07-273367		Mitsubishi Cable Industries, Ltd.	10-20-1995		
	18	Japan	9-093315		Nichia Chemical Industries, Inc.	04-11-1997		x

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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet

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Application Number

10/685.597

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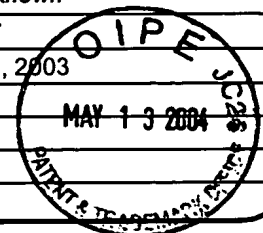
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		Office ³	Number ⁴	Kind Code ⁵ (if known)				
	19	JP	10312971		NEC CORP.	11-24-1998		
	20	WO	99/23693	A	Sumitomo Electric Industries Ltd.	05-14-1999		
	21	EP	1041610	A1	Kensaku Motoki	04-2000		
	22	CA	2,258,080	A1	Nichia Chemical Industries, Ltd.	04-09-1998		
	23	WO	98/47170		" "	10-22-1998		
	24	WO	00/31783		North Carolina State University	06-02-2000		
	25	WO	00/33365		" "	06-08-2000		
	26	WO	99/65068		" "	12-16-1999		
	27	EP	0 942 459	A1	Nichia Chemical Industries	09-15-1999		
	28	EP	1 005 067	A2	Sony Corp. Tokyo	05-31-2000		
	29	CN	1258094		Sony Corp	06-28-2000		

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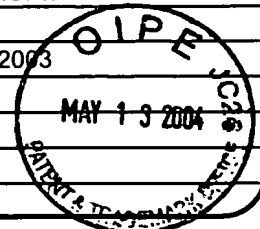
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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Complete if Known <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td style="width: 50%;">10/685,597</td> </tr> <tr> <td>Filing Date</td> <td>October 16, 2003</td> </tr> <tr> <td>First Named Inventor</td> <td>Kong et al.</td> </tr> <tr> <td>Group Art Unit</td> <td>2812</td> </tr> <tr> <td>Examiner Name</td> <td></td> </tr> <tr> <td>Attorney Docket Number</td> <td>5000.129D</td> </tr> </table>		Application Number	10/685,597	Filing Date	October 16, 2003	First Named Inventor	Kong et al.	Group Art Unit	2812	Examiner Name		Attorney Docket Number	5000.129D
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Sheet	3	of	4												



OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	30	DAVIS, ET AL., "Pendeo-epitaxial Growth and Characterization of GaN and Related Materials on 6H-SiC(0001) and Si(111) Substrates", Department of Materials Science and Engineering, North Carolina State University, F99W2.1	
	31	GEHRKE ET AL., "Pendeo-Epitaxy of Gallium Nitride and Aluminum Nitride Films and Heterostructures on Silicon Carbide Substrate", MRS Internet Journal Nitride Semiconductor Research 4S1, G3.2, 1999	
	32	KATO, ET AL., "Selective growth of wurtzite GaN and AlxGa1-xN on GaN/sapphire substrates by metalorganic vapor phase epitaxy", Journal of Crystal Growth 144, 1994, 133-140	
	33	KAWAGUCHI ET AL., "Selective Area Growth (SAG) and Epitaxial Lateral Overgrowth (ELO) of GaN Using Tungsten Mask", MRS Internet Journal Nitride Semiconductor Research 4S1, 1999	
	34	"LEO Unmasked by Pendeo-Epitaxy", Compound Semiconductor, March 1999, p. 16	
	35	MARCHAND ET AL., "Structural and optical properties of GaN laterally overgrown on Si(111) by metalorganic chemical vapor deposition using an AlN buffer layer", MRS Internet Journal Nitride Semiconductor Research 4, 2, 1999	
	36	NAKAMURA ET AL., "High-Power, Long-Lifetime InGaN/GaN/AlGaIn-Based Laser Diodes Grown on Pure GaN Substrates", Japanese Journal of Applied Physics, 1998, Vol. 37, Pt. 2, No. 3B	
	37	NAKAMURA, "InGaN/GaN/AlGaIn-based laser diodes", Properties, Processing and Applications of Gallium Nitride and Related Semiconductors C5.1, June 1998, pp. 587-95	
	38	NAKAMURA ET AL., "InGaN/GaN/AlGaIn-Based Laser Diodes Grown on GaN Substrates with a Fundamental Transverse Mode", Japanese Journal of Applied Physics, 1998, Vol. 37, Pt. 2, No. 9A/B	
	39	NAKAMURA ET AL., "InGaN/GaN/AlGaIn-Based Laser Diodes with Modulation-Doped Strained-Layer Superlattices", Japanese Journal of Applied Physics, 1997, Vol. 36, Pt. 2, No. 12A	
	40	SHEALY ET AL., "Single Step Process for Epitaxial Lateral Overgrowth of GaN", The Heterogeneous Optoelectronics Technology Center: Quarterly Report, p. 9	

Examiner Signature	Date Considered
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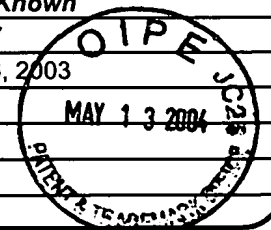
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Sheet 4 of 4

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OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	41	SMART, ET AL., "Single step process for epitaxial lateral overgrowth of GaN on SiC and sapphire substrates", Applied Physics Letters, Vol. 75, No. 24; December 1999, pp. 3820-3822	
	42	DUPUIS, R.D. et al., Selective-area and lateral epitaxial overgrowth of III-N materials by metalorganic chemical vapor deposition"; Journal of Crystal Growth, vol. 195, no. 1-4, December 1998 (1998-12), pages 340-345	
	43	KUNG, P. et al., Lateral epitaxial overgrowth of GaN films on sapphire and silicon substrates, Applied Physics Letters, vol. 74, no. 4, Jan. 25, 1999, pages 570-572	
	44	ZHELEVA, T.S. et al., Pendeo-epitaxy - A new approach for lateral growth of gallium nitride structures, MRS Internet Journal of Nitride Semiconductor Research, 1999, vol. 451, no. G3.38, Nov. 30, 1998 - Dec. 4, 1998	
	45	MARX, D. et al., Selective area growth of GaN/AlN heterostructures, Journal of Crystal Growth, vol. 189-190, June 1998, pages 87-91	
	46	SMART, ET AL., "AlGaIn/GaN Heterostructures on Insulating AlGaIn Nucleation Layers", Applied Physics Letters, July 1999, Vol. 75, No. 3	
	47	KIDOGUCHI, I. et al., Improvement of crystalline quality in GaN films by air-bridged lateral epitaxial growth, Japanese Journal of Applied Physics, Part 2 (Letters), vol. 39, no. 58, May 15, 2000, pages L453-L453	
	48	USUI ET AL., "Thick GaN Epitaxial Growth with Low Dislocation Density by Hydride Vapor Phase Epitaxy", Japanese Journal of Applied Physics, 1997, Vol. 36, Pt. 2, No. 7B	

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